

INSTACEM Mortar Underwater Powder

Description

INSTACEM Mortar Underwater Powder is a blend of special cement powders, high quality graded silica sand, and a unique combination of polymers and admixtures. When mixed with water the powder produces a mortar with a putty consistency which is wash-out resistant and waterproof. The material develops an early gain in strength and can be used above or below the waterline.

Uses

- Offshore locations and applications
- The repair of tunnels, culverts, sewers and pipes
- To point and repaid bricks, blocks and masonry above or below the waterline
- The repair of concrete in tidal zones where time is limited
- The protection of marine structures above and below the waterline
- The consolidation of sea defences, harbours, jetties, docks and locks
- To stop and seal the flow of water or grout in brickwork or concrete
- Caulking material for seals and joints, and a shutter sealer
- In situations where an early strength gain is required
- To beat the tide

Key Benefits

- Portland cement based, polymer modified and microsilica enhanced
- The mortars develop an excellent putty consistency for ease of applications
- Will not disperse, wash-out or break up in water or underwater
- Develops an early rapid strength gain at 20°C
- Impermeable bond to brick, masonry, steel and concrete
- Mortars can be built up to the level of existing profiles in one operation
- The mortar can be finished to produce a smooth and attractive finish
- The material will not contaminate canals, rivers, reservoirs or lakes
- The powder contains no iron, high alumina cement, chlorides or deleterious substances
- Safe to use, non toxic and non hazardous

Mixing Instructions

INSTACEM Mortar Underwater Powder is mixed with water using a suitable container, a pneumatic or electric power tool (1kW), and an **INSTACEM** stirrer. Mixing by hand is not recommended. Add 2.25 litres of water to the container or mixer. Pour 12.5kg of powder onto the water while mixing. After all the powder has been added, mix for 1 minute. The mortar is now ready for use. Alternatively, small amounts of the material can be prepared by adding the powder to a quantity of water in stages, while mixing to obtain the required consistency.

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Application

All necessary preparatory work must be completed before the mortars are mixed.

Preparation

Ensure that all surfaces with which the mortars come into contact are clean, free of contamination and marine growth. In underwater locations, use a water jet to produce a good strong substrate on which to apply the materials.

Mix the mortar powder with water to a good mortar consistency. With the use of a gloved hand and fingers, form a contact coat: rub the mortar onto and well into any cracks or cavities and completely cover the substrate. A contact coat applied properly will reduce voids at the bondline and promote intimate contact between the repair material and the concrete. It will also prevent peeling and slumping on vertical and soffit substrates. On top of the contact coat, use a trowel or steel float to apply the material and bring up to profile of the surrounding concrete. For ease of working and application of the mortars above the waterline, and to remove stickiness, keep gloves and all implements wet. Use a hand held water spray to wet mortar surfaces and to produce smooth and attractive finishes.

For sections greater than 7.5mm above water, **INSTACEM Underwater Non-Flow Concrete** should be used. During winter weather work or low temperature applications, use **INSTACEM Mortar Underwater Accelerated**. For an extremely early and rapid strength gain, or for plugging and sealing leaks, **INSTASET Rapid Mortar** should be used. The powder can be mixed with water and pushed or hammered home as it 'goes off', or the powder can be rubbed into the brickwork or concrete where it leaks.

Curing

In above water locations, as soon as the material is in place and the application is complete, cure immediately with **INSTACEM Cure**. Spray at the rate of approximately 10m² /litre, and at least 50mm beyond the perimeter of the repaid. Ensure that the mortar is evenly and completely covered.

Packaging and Shelf Life

INSTACEM Mortar Underwater Powder is packed in 25kg, durable bags and has a shelf life of 2 years.

Health & Safety

INSTACEM Special Concrete Products are non toxic and safe to use. However, when the powders come into contact with water or moisture, a strong alkali is liberated. Wear protective clothing, goggles, and a dust mask while mixing and applying the material.

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Quality Assurance

INSTACEM Mortar Underwater Powder is a Quality Assured product produced to British Standards 5750 part 2.

Technical Data

Typical Data at 18% water/powder ratio at 20° C.

Consistency:	Good mortar
Consistency Life:	20 minutes
Initial Set:	1 hr 30 minutes
Final Set:	2 hours
Density:	2120kg/m ³

Minimum Compressive Strength:

Days	N/nm ²
1	10
7	30
28	50

Yield: 25kg powder yields 13.50 litres of good mortar. 1m³ of good mortar requires 1.850 tonnes of powder.